REMARKS

Claims 1, 4-7 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Barna et al. (U.S. Patent Application Publication Number 2002/0046277, hereinafter "Barna") in view of Verma et al. (U.S. Patent Application Publication Number 2003/0224792, hereinafter "Verma"), claims 11-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Barna in view of Applicant Admitted Prior Art, and claims 8-10, 17, 20, 21, 23-26, 29, 31 and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Barna in view of Krishnamurthi et al. (U.S. Patent Application Publication Number 2003/0174667, hereinafter "Krishnamurthi"). Respectfully disagreeing with these rejections but nonetheless amending the claims, the applicants request reconsideration of the outstanding rejections. However, no amendments have been made for the purpose of narrowing the scope of any claim.

Claims 1 and 27 recite that conveying the PPP context information comprises conveying **only types of PPP context information that are applicable to the target AR**. The Examiner has asserted that this language is taught by Verma [0043, 0045-0052]. Verma [0043-0052] reads as follows (emphasis added):

> [0043] The call state data can take a variety of forms. For instance, in a data connection, the call state data may include the sequence number of the last packet sent, Ns, and the sequence number of the last packet received, Nr, for connection 56. See RFC 2661. In a voice connection, the call state may include whether the mobile node has a call waiting or is part of a conference call. **The call state data may also include call state data relating to the PPP protocol or other connection oriented protocols. For instance, tunnel endpoint 250 may store the call state data for a virtual PPP session with a peer entity in remote client 20.** See RFC 1661. One of ordinary skill in the art will recognize that a variety of types of call state data exist that may be advantageously preserved by applying the approach described in the present invention.
>
> [0044] Tunnel initiator 230 will also multicast a newly defined USER_MOVED message, shown as message 236 in FIG. 3, that also includes the MIN for the mobile node, the tunnel ID value assigned to connection 56 by tunnel initiator 230, the call ID value assigned to connection 56 by tunnel initiator 230, and call state data for connection 56. The message may also include the address for tunnel endpoint 250.

[0045] An IP multicast message will have a predetermined message type that uniquely identifies it as a database query in accordance with the present invention. IP multicasting is the transmission of an IP datagram to a "host group", a set of zero or more hosts identified by a single IP destination address. A multicast datagram is delivered to all members of its destination host group with the same "best-efforts" reliability as regular unicast IP datagrams, i.e., the datagram is not guaranteed to arrive intact at all members of the destination group or in the same order relative to other datagrams. The membership of a host group is dynamic; that is, hosts may join and leave groups at any time. There is no restriction on the location or number of members in a host group. A host may be a member of more than one group at a time and a host need not be a member of a group to send datagrams to it.

[0046] A host group may be permanent or transient. A permanent group has a well-known, administratively assigned IP address. It is the address, not the membership of the group, that is permanent; at any time a permanent group may have any number of members, even zero. Those IP multicast addresses that are not reserved for permanent groups are available for dynamic assignment to transient groups which exist only as long as they have members. See RFC 1112 and RFC 2236 for further information regarding IP multicasting.

[0047] After multicasting message 236, tunnel initiator 230 then sends a StopCCN message 342 containing the tunnel ID for connection 56, which is acknowledged by tunnel endpoint 250 with ZLB-ACK message 344 . However, tunnel initiator 250 has stored the information relating to connection 56 in the entry in the connection table 254, so connection 56, in effect, survives in a suspended state.

[0048] The multicast message 236 is sent to a predetermined multicast address that is shared by all the tunnel initiators within a subnet that includes tunnel initiator 230. There is typically some correlation between the logical subnet of tunnel initiator 230 and the geographical area surrounding tunnel initiator 230 within which mobile node 20 is likely to be travelling. For purposes of the present example, tunnel initiator 240 shares the subnet with tunnel initiator 230 and will therefore receive USER_MOVED message 236.

[0049] When tunnel initiator 240 receives the USER_MOVED message 236, it creates an entry in handoff table 244 that is keyed by the MIN value and includes the data from the message. Likewise, all other tunnel initiators that receive message 236 and are configured according to the present invention will create an entry in their corresponding handoff tables.

[0050] When mobile node 20 enters the service area for tunnel initiator 240 and receives an agent advertisement from tunnel initiator 240, it will transmit registration request 402 that includes its MIN value. Responsive to registration request 402, tunnel initiator 240 will query handoff table 244 using the MIN value. Tunnel initiator 240 will find the entry for mobile node 20 that was created in response to message 236 and sends a newly defined TUNNEL__HANDOFF_REQUEST message 412 that includes the MIN value, the tunnel ID value assigned to connection 56 by tunnel initiator 230, the call ID value

assigned to connection 56 by tunnel initiator 230, a new tunnel ID value assigned to connection 66 by tunnel initiator 240, and a new call ID value assigned to connection 66 by tunnel initiator 240.

[0051] Tunnel endpoint 250 uses the MIN value from tunnel handoff message 412 to query connection table 254 for a corresponding entry and will find the entry created in response to the CDN message 332 in FIG. 4 having cause code=HANDOFF. Tunnel endpoint 250 restores the call data information from the entry in connection table 254 for use with connection 66 established with tunnel initiator 240. Tunnel endpoint acknowledges tunnel handoff message 412 by sending TUNNEL_HANDOFF_RESPONSE message 416.

[0052] Once ZLB-ACK message 416 is received in the new tunnel initiator 240, the status of connection 66 is substantially the same as the call state of connection 56 when data transfer over connection 56 ceased. With the call state for connection 56 established in tunnel initiator 240 and restored in tunnel endpoint 250, data transfer over connection 66 may resume where it left off when mobile node 20 left the transmission area for tunnel initiator 230.

However, the applicants submit that, as cited, Verma does not teach or suggest any limitation on the PPP / call state data that is conveyed, while claims 1 and 27 recite that conveying the PPP context information comprises conveying **only** types of PPP context information that are applicable to the target AR. The applicants submit that Verma, as cited, does not teach or suggest **what types of PPP context information** are conveyed or even indicate that there are different types of PPP information. As cited, Verma merely refers to PPP generically, saying that the "call state data may also include call state data relating to the PPP protocol or other connection oriented protocols." Thus, the applicants submit that this portion of Verma cannot be said to teach or suggest anything about limiting (or how to limit) what call state data relating to the PPP protocol is conveyed.

As amended claims 17 and 29 recite that the beginning of a **period of low remote unit data activity** triggers establishing the PPP link. The Examiner has asserted (with respect to original claims 5 and 21) that this language is taught by Barna [0035]-[0036], which reads as follows:

[0035] The prior art conventionally sets up an A10 connection following an access specific layer 2 handoff (CDMA 2000, 3GPP2/IS2001 Specifications). This contributes a significant delay. To address this concern, and hence reduce the delay level, a proposed

> fast handoff procedure sets up the A10 connection earlier in the handoff process and preferably before the issuance of the handoff command from the old (serving) PDSN. More particularly, the pre-setup of the A10 connection is accomplished after the target Base Station Controller (BSC) responds to the PDSN handoff request with an A9-Setup-A8 message. Pre-setup of the A10 connection provides the new (target) PDSN with the address of the old PDSN. The new PDSN then makes a handoff solicitation to the old PDSN. Responsive thereto, the old PDSN provides all the security, mobility, and PPP context information relating to the subscriber.
>
> [0036] Transfer of the PPP context information obviates the need to renegotiate the PPP link at the new PDSN following handoff and minimizes delay of link layer establishment. The address of the new PDSN is provided to the old PDSN in connection with the A9-AL disconnect to stop packet transmission to the old BSC in the radio access network, and this address is used to establish a path to tunnel the packets to the new PDSN. Following mobile station handoff, an A9-AL connect message is provided to trigger the resumption of packet data transmission using the PDSN-to- PDSN tunnel.

However, the applicants do not see how this portion of Barna teaches that the beginning of a period of low remote unit data activity triggers establishing the PPP link. Should the Examiner maintain the rejection of claims 17 and 29, the applicants request that the Examiner provide a more detailed explanation of how Barna supposedly teaches or suggests what is claimed.

Since none of the references cited, either independently or in combination, teach all of the limitations of independent claims 1, 17, 27 or 29, or therefore, all the limitations of their respective dependent claims, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown. No remaining grounds for rejection or objection being given, the claims in their present form are asserted to be patentable over the prior art of record and in condition for allowance. Therefore, allowance and issuance of this case is earnestly solicited.

The Examiner is invited to contact the undersigned, if such communication would advance the prosecution of the present application. Lastly, please charge any additional fees (including extension of time fees) or credit overpayment to Deposit Account No. **502117 – Motorola, Inc.**

Respectfully submitted,
M. Nakhjiri et al.

By: _____

Jeffrey K. Jacobs
Attorney for Applicant(s)
Registration No. 44,798
Phone No.: 847/576-5562
Fax No.: 847/576-3750